Chapter 2 Watershed Issues, Opportunities, Goals and Objectives

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2.1 Watershed Issues

As discussed in Section 1.6, one of the first tasks undertaken by the BCCWP was to identify watershed issues based on stakeholder input. Issues were first identified by meeting participants at the April 2012 planning meeting (see Appendix A for stakeholder meeting minutes) and voted on at the June 2012 meeting to determine priorities. A full list of the issues/concerns of stakeholders is available in Table 2-1. Issues were grouped into categories by topic areas to categorize them into goal areas. All of the categorized are listed below from highest concern to lowest concern, based on stakeholder voting.

Table 2-1: Specific Issues/Concerns Identified by Stakeholders.

Priority	# of Votes	Issue
1	Total = 97	Water Quality
	44	Water quality and impairments in Buffalo Creek, tributaries, Lakes and Buffalo Creek Reservoir.
	13	Illicit discharges.
	15	Pollution from stormwater.
	12	Potential groundwater pollution and the impact on private wells.
	2	Expand/implement/coordinate water quality monitoring program among jurisdictions.
	10	Clean water for the future.
	1	Concerns regarding sump pump discharges to the creek.
2	Total = 78	Habitat
	35	Natural resource/habitat protection and restoration.
	18	Invasive species control and removal.
	5	Aesthetic quality improvement.
	20	Sedimentation in creeks and lakes.
3	Total = 73	Stormwater and Flooding
	59	Flooding and stormwater management.
	9	Changes to the floodplain in the watershed from development.
	5	Stormwater runoff degrading wetlands at Deer Grove Forest Preserve.
4	Total = 39	Projects
	39	Promoting and implementing green infrastructure.
	0	Identifying and organizing a pilot project.
5	Total = 38	Erosion
	4	Erosion and the associated loss of land and trees.
	3	Erosion and impacts to water quality.
	0	Preventing and repairing channel erosion.
	29	Location specific erosion issues such as: -Creekside Development -Buffalo Creek Preserve

		-Buffalo Creek at Cuba Road -Hillcrest Subdivision -Buffalo Creek east of Arlington Heights Road -Buffalo Creek at Lake Cook Road -The Crossings
	0	Erosion due to development and upstream detention ponds.
	2	Erosion and tree removal concerns.
6	Total = 30	Education/Outreach
	0	Address mosquito abatement problem.
	1	Lack of communication about permitting between municipality and residents.
	26	Provide information on water quality, erosion, stormwater, illicit discharges, and septic system maintenance to targeted audiences (homeowner associations (HOAs), residents, landowners).
	3	Get younger people involved. Coordination with BG EAT, Eagle Scouts, schools, Gardening Clubs, etc.
	0	Utilize homeowner groups for matching funds (for grants) and volunteers.
7	Total = 2	Additional Issues Raised During Meeting
	2	Ordinance Revisions
	0	Aesthetics (habitat)
	0	Safety

2.2 Watershed Opportunities

Following the identification of watershed issues, stakeholders provided input on what they think the watershed opportunities are. They considered what they really like about the watershed and identified these characteristics as opportunities for preserving for the future in addition to identifying opportunities for remediating issues. The opportunities identified by stakeholders are listed in Table 2-2.

Table 2-2: Opportunities in the Buffalo Creek Watershed Identified by Stakeholders.

Stakeholder Identified Opportunities
Target pollutants and sediments.
Expand/implement/coordinate water quality monitoring program among jurisdictions.
Promote and implement green infrastructure.
Conduct habitat restoration and invasive species removal projects.
Look for a pilot project to get people interested.
Tap into Metropolitan Water Reclamation District (MWRD) funds to implement green infrastructure projects in Cook County.
Provide information on water quality, erosion, storm water, illicit discharges, and septic system maintenance to residents.
Get people involved. Coordinate with BG Environmental Action Team, Eagle Scouts, Schools, and Gardening Clubs.
Utilize homeowner groups for matching funds (for grants) and volunteers.
Help to promote ordinances.
Volunteer opportunities.

The identification and prioritization of issues and opportunities at the outset of the planning process was the basis the planning team and stakeholders used for developing goals and objectives for the watershed plan and to guide the planning team's focus in completing the watershed assessment. The prioritization process did not limit watershed planning to only the five highest priority issues/opportunities, but rather allowed the watershed plan development team to focus their efforts and make sure that the highest priority issues are adequately addressed in the planning process and within this watershed plan report. The planning team also considered the results of the watershed assessment in developing the plan objectives.

2.3 Stakeholders Have a Vision for the Watershed

The Buffalo Creek Watershed stakeholders participated in an exercise to develop a vision statement for the watershed. The vision serves to focus the aim of the group. While different groups implementing the plan may have different goals and objectives, the achievement of all should fit under the overarching vision statement.

The vision statement exercise began by asking the following question:

1. "What would you like the Buffalo Creek watershed landscape to look like – or be – in 20 years?"

This question was followed by the following guidance:

2. Begin with what you value related to the landscape, water resources & living conditions (consider what you like and would like to preserve – think about the future).
3. Lastly, the exercise asked participants to write a newspaper article reflecting their vision for the watershed including a headline, cover story, types of photographs to be included and quotes the article would include.

The participant response to the exercise resulted in the following vision statement for the Buffalo Creek watershed.

> Buffalo Creek will be a sustainable watershed success story with reduced erosion, improved water quality, thriving wildlife, decreased flooding and the beauty of native vegetation. This will be accomplished through collaborative and inclusive community and agency partnerships.

2.4 Watershed Goals and Objectives

The Buffalo Creek Watershed planning committee generated six goals to address stakeholder issues/concerns. Establishing these goals allowed the planning committee to develop objectives and outcomes for each goal. The goals developed by the planning committee were central to the development of the action plan (Chapter 7). The goals and objectives reflect watershed conditions, address stakeholder priority issues, consider expected future changes, and meet current and possible future funders' expectations.

Over the period of the planning year, "measurable" indicators were assigned to each goal to help measure future progress toward meeting each goal as the watershed action plan is implemented. The Action Plan contains recommended:

- Programmatic actions that address flooding; water quality; stormwater management and drainage; natural resources; and education, outreach, coordination and implementation goals; and
- Site specific actions that recommend best management practices for specific problem locations identified during inventories and assessments.

The goals and objectives are examined in more detail when evaluating the watershed plan's performance and progress by evaluating milestones related to measurable indicators for the goals and objectives.

Noteworthy: Goals and Objectives

Goals:

- Mini vision statements or targets for the watershed plan.
- Are the desired change or outcome you wish to achieve.
- Are driven by stakeholder issues and problems identified by the watershed assessment.
- Ideally will be clear, concise and measurable.

Objectives:

- Are specific, more precise steps needed to attain goals.
- Position reached or purpose achieved by some activity by a specific time.
- Objective outcomes should be measurable, attainable, relevant, and time-based.

GOAL #1 WATER QUALITY: Improve and protect water quality (physical, biological, and chemical health), reduce impairments and non-point source pollution, and implement land development and management practices to prevent pollution.

OUTCOME: Water bodies are not impaired (fully support designated uses) and future pollution is prevented, have healthy lakes, streams, and wetlands.

OBJECTIVES:

a. Reduce the quantity of road salt (sodium chloride) needed for safe and cost-effective winter maintenance to reverse the current trend of rising chloride levels in lakes. Target public and private snow plow operators.

   Indicator: Amount of road salt used.

b. Reduce actions that cause phosphorous to be released into the waterways such as erosion and fertilizers with phosphorus. Watershed municipalities and counties pass ordinances banning the use of fertilizers with phosphorus unless a soil test indicates it is needed.

   Indicator: Number of municipalities and counties that adopt a phosphorous ordinance.

c. Remove sources of fecal coliform.

   Indicator: Number of identified sources of fecal coliform that were addressed.

d. Reduce sediment accumulation in surface waters by reducing streambank, shoreline, and construction related erosion throughout the watershed.

   Indicator: Linear feet of streambank and shoreline restored.

e. Reduce pollution caused by dissolved and suspended solids and sediment accumulation in surface waters and wetlands.

   Indicator: Linear feet of streambanks addressed that were designated as "moderate erosion" and "severe erosion" in the Stream and Basin Inventory.

f. Implement stormwater management practices that minimize runoff volumes, velocities and pollutants to the creek through infiltration of rainwater on-site using stormwater Best Management Practices (BMPs) such as rain gardens, bio-retention, permeable pavement, and open swales.

Indicator: Number of BMPs installed.

g. Provide incentives/cost share programs, and promote pollution and stormwater runoff reduction programs (such as Conservation @Home) to result in retrofitting/implementing best management practices that reduce pollution and infiltrate stormwater.

Indicators: Number of incentive, cost share, pollution and stormwater runoff reduction programs established.

h. Retrofit and maintain existing stormwater management structures such as detention ponds to provide or enhance water quality improvement, including discouraging nuisance wildlife (Canada geese).

Indicator: Number of existing stormwater management structures retrofitted.

i. Develop and implement a watershed monitoring program to collect and monitor water quality and biological data on a regular basis.

Indicator: Watershed monitoring program implemented, frequency of data collection.

GOAL #2 MANAGE STORMWATER VOLUME AND REDUCE FLOODING: Reduce flooding and runoff through increased storage and infiltration of stormwater.

OUTCOME: Stormwater flooding and runoff is reduced.

OBJECTIVES:

a. Reduce the rate and volume of stormwater runoff from areas that are already developed.

Indicator: Amount of stormwater detained from new development or redevelopment.

b. Reduce the rates and volume of runoff from new development – maintain pre-development hydrology.

Indicator: Number of developments which maintain pre-development hydrology.

c. Watershed municipalities and counties pass ordinances that prohibit building in the 100-year floodplain.

Indicator: No permits issued for constructing buildings in the 100-year floodplain.

d. Watershed municipalities and counties pass ordinances and standards that require sump pump and downspout discharges be directed to lawn or rain gardens and infiltrated.

Indicator: Number of communities that pass ordinance and standards that require sump pump and downspout discharges be directed to lawn or rain gardens and infiltrated.

e. Establish institutional stream maintenance programs and standards using the American Fisheries Society standards as guidelines.

Indicator: Number of communities and public agencies with established stream maintenance programs.

f. Increase the number of buyouts of properties with structure damage caused by chronic flooding.

Indicator: Number of buyouts.

g. Reduce the number of claims filed during flood events each year by 5%.

Indicator: Number of claims field each year per community in the watershed.

h. Create stormwater utilities based on impervious surface with off-setting credits for best management practices that reduce runoff.

Indicators: Number of communities with stormwater utility programs.

GOAL #3 NATURAL RESOURCES: Protect, enhance & restore natural resources (soil, water, plant communities, fish and wildlife) through expanding environmental corridors, maintaining hydrology and buffers for high quality areas, and employing good natural resource management practices.

OUTCOME: Natural resources are protected, enhanced, or restored.

OBJECTIVES:

a. Permanently preserve more natural lands as conservation areas through purchase by forest preserve or by conservation easement.

Indicator: Area of open space preserved.

b. Maintain and expand high quality native riparian buffers (non-native not to exceed 30%) and restore native riparian buffers along those stream reaches identified as having a high or medium level of need for improvement in the stream inventory.

Indicator: Area of riparian buffer maintained, expanded and restored.

c. Restore degraded natural communities, both terrestrial and aquatic (lakes, wetlands and streams), to ecological health with natural practices and native plants to improve habitat and functional value.

Indicator: Area of degraded natural communities restored.

d. Restore and create wetlands where feasible with a minimum target of 10% wetland per Subwatershed Management Unit (SMU).

Indicator: Number and acreage of wetlands created and/or restored.

e. Identify, prioritize, and preserve open land with permeable soils, depressional storage, floodplain, wetlands, hydric soils, important natural communities, or significant cultural features within the watershed (i.e.: acquisition, conservation easements, etc.).

Indicator: Amount of open space preserved with permeable soils, depressional storage, floodplain, wetlands, hydric soils, important natural communities, or significant cultural features.

f. Remediate detrimental stream channel conditions such as armouring, channelization, siltation, and lack of habitat characteristics with in-stream and channel-specific restoration enhancements such as re-meandering, re-grading, bio-engineering approaches to stabilization, and habitat structures (pools and riffles, boulders, root wads, etc.).

Indicator: Linear feet of detrimental stream conditions restored.

g. Watershed municipalities and counties adopt policies, standards, and management practices that keep invasive species out.

Indicator: Number of municipalities and counties that adopt policies, standards, and management practices that keep invasive species out.

h. Establish no mow zones along streams or around waters.

Indicator: Number of no mow zones established.

i. Reduce and remove invasive species such as buckthorn, common reed, reed canary grass, garlic mustard, teasel, purple loosestrife, and cattails.

Indicator: Area of land maintained by removing invasive species.

GOAL #4 GREEN INFRASTRUCTURE: Use a system of both site-specific stormwater green infrastructure practices to reduce runoff and pollution, and regional greenways and trails to protect and connect the natural drainage system, natural resource areas and to provide recreational opportunities.

OUTCOME: Site level and regional green infrastructure system is established.

OBJECTIVES:

a. Identify and preserve open space in each SMU as green infrastructure or greenways to promote flood damage reduction, water quality improvement, natural resource protection, and wetland restoration.

Indicator: Amount of open space identified and preserved as green infrastructure or greenways to promote flood damage reduction, water quality improvement, natural resource protection, and wetland restoration.

b. Identify and preserve open space that provides important trail or habitat corridor connections and provides passive recreational opportunities such as hiking fishing, biking, riding, canoeing, and environmental interpretations/education as part of the greenway.

Indicator: Area of open space identified and preserved that provide trail or habitat corridor connections.

c. Implement green street retrofits and install stormwater and natural resource best management practices for new road projects to provide green infrastructure benefits.

Indicator: Length of roadway retrofitted or designed with BMPs

d. Implement green infrastructure best management practices including porous pavement in parking lots to increase infiltration and reduce runoff volumes as retrofits in existing developed areas and in new developments.

Indicator: Number of green infrastructure best management practices implemented in parking lots to increase infiltration and reduce runoff volumes as retrofits in existing developed areas and in new developments.

e. Establish cost-sharing retrofit programs as an incentive to implementing green infrastructure best management practices.

Indicator: Number of cost-sharing programs available.

f. Watershed municipalities, counties, and natural resource agencies adopt and use the Buffalo Creek Watershed Plan in local land use plans and policies.

Indicator: Number of municipalities, counties and natural resource agencies that adopt the Buffalo Creek Watershed Plan.

g. Integrate green infrastructure approach into local stormwater and capital improvement/maintenance budgets.

Indicator: Number of Green Infrastructure projects included in community and public agency capital budgets

GOAL #5 SMART DEVELOPMENT: Guide new development and redevelopment design and practices to protect or enhance existing water resources, natural resources and open space.

OUTCOME: New development occurs without impairing water resources, natural resources, and open space.

OBJECTIVES:

a. Implement conservation design developments that cluster development to protect open space as green infrastructure, protecting important natural communities.

   Indicator: Number of developments using conservation design principles built.

b. Review and revise existing development codes to allow or require the stormwater green infrastructure approach to site planning and design and low impact development practices by right.

   Indicator: Number of municipalities that have codes that allow or require green infrastructure for stormwater management.

c. Watershed municipalities and counties will revise watershed development/subdivision ordinances to include requirement, credit or incentive for infiltration.

   Indicator: Number of municipalities and the county which revise ordinances to require, credit, or incentive for infiltration.

GOAL #6 STAKEHOLDER EDUCATION: Provide watershed stakeholders with the knowledge, skills and motivation needed to implement the watershed plan. Watershed stakeholders include (but are not limited to) residents, property owners, property owner associations, businesses and institutions, government agencies and jurisdictions, and developers.

OUTCOME: Stakeholders have adequate information and knowledge of resources to implement the watershed plan.

OBJECTIVES:

a. Educate residents and watershed jurisdictions on the importance of watershed health (water quality, flood prevention, green infrastructure) to the economy of the communities in the watershed.

   Indicator: Number of property owners that receive information about the importance of watershed health.

b. Develop a detention basin maintenance campaign to educate homeowner associations, municipalities and businesses about proper maintenance of detention basins and other stormwater drainage system features.

   Indicator: Number of workshops and attendees for education events regarding proper maintenance of detention basins and stormwater features.

c. Educate and provide training to residents and business owners on stormwater best management practices that can be accomplished on private property.

   Indicator: Number of workshops and attendees for education events regarding reducing/eliminating pollution inputs associated with lawn care and pet waste.

d. Facilitate public training and engage residents, students, lake associations and homeowner associations in volunteer lake and stream stewardship and maintenance.

   Indicator: Number of lake and stream stewardship and maintenance volunteers.

e. Promote the use of native plants, best management practices, green infrastructure, and removal of invasive plants by establishing demonstration sites and training.

Indicator: Number of demonstration sites established and trainings held.

f. Promote the watershed plan recommendations by working with stakeholders to develop a pipeline of watershed projects and funding sources for each of them.

Indicator: Number of projects implemented from the Action Plan.

g. Update watershed residents about the ecological health of the watershed by developing and disseminating a watershed report card in years 5 and 10 of plan implementation. Convey messages from the education plan with public relations, education, outreach and media vehicles to increase public awareness and understanding of watershed issues.

Indicator: Number of watershed residents that receive watershed report card.